Common Symantics & Syntax Collection

Supporting CMMS

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Outline

- **Rationale for CSS collection**
- **The Syntax**
- **Semantics - examples, methods and lessons learned**
- **Present charter**
- **What we need from you**

The Rationale for CSS and the Collection Effort

What is it?

Why do it?

Ron Weller

Outline

- **Common Semantics & Syntax - What is it? What is the collection effort?**
- **Why do CSS?**
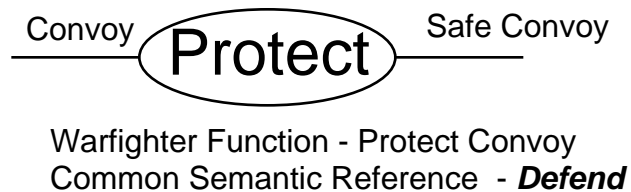- **Why it is not a threat to you**
- **How it will be used**

Common Semantics & Syntax - What is it?

- **Common reference framework for military operational descriptions (knowledge)**
    - Syntax is the generic knowledge categorization structure
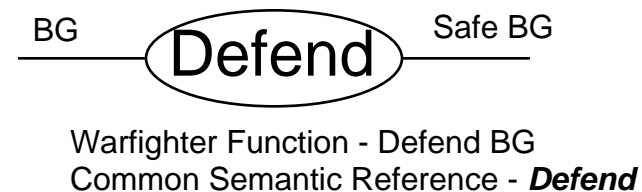   - Semantics are primarily the action terms and their meanings

Semantics Illustrated

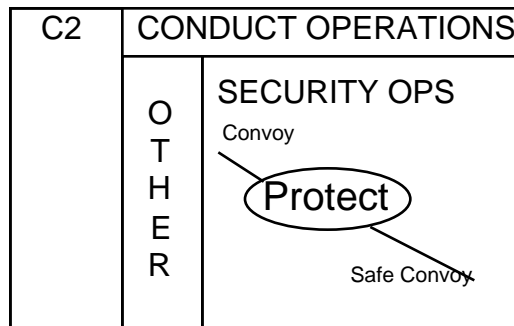- **Consider similar operations in two different contexts**

Army Context

Convoy — Protect — Safe Convoy

Warfighter Function - Protect Convoy
Common Semantic Reference - *Defend*

Navy Context

BG — Defend — Safe BG

Warfighter Function - Defend BG
Common Semantic Reference - *Defend*

- **We need to relate "Protect" to "Defend"**
  - **Establish a common underlying term for reference purposes**
  - **Establish a one-to-one correlation between terms and their accepted meanings or "senses"**
  - **Call it "Common Semantics**

Syntax Illustrated

- **Consider the contexts of the two operations**

Army Context

MILITARY OPERATIONS

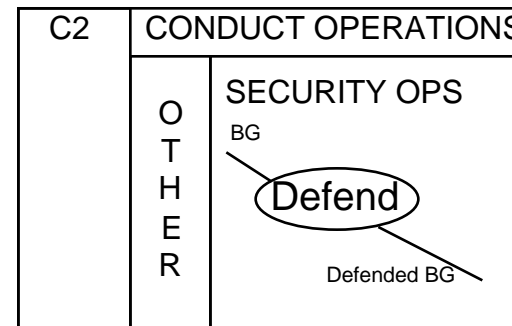| C2	CONDUCT OPERATIONS
O T H E R	SECURITY OPS Convoy (Protect) Safe Convoy

Warfighter Function - Protect Convoy
Warfighting Context - Security Operations
Common Semantic Reference - *Defend*

Navy Context

MILITARY OPERATIONS
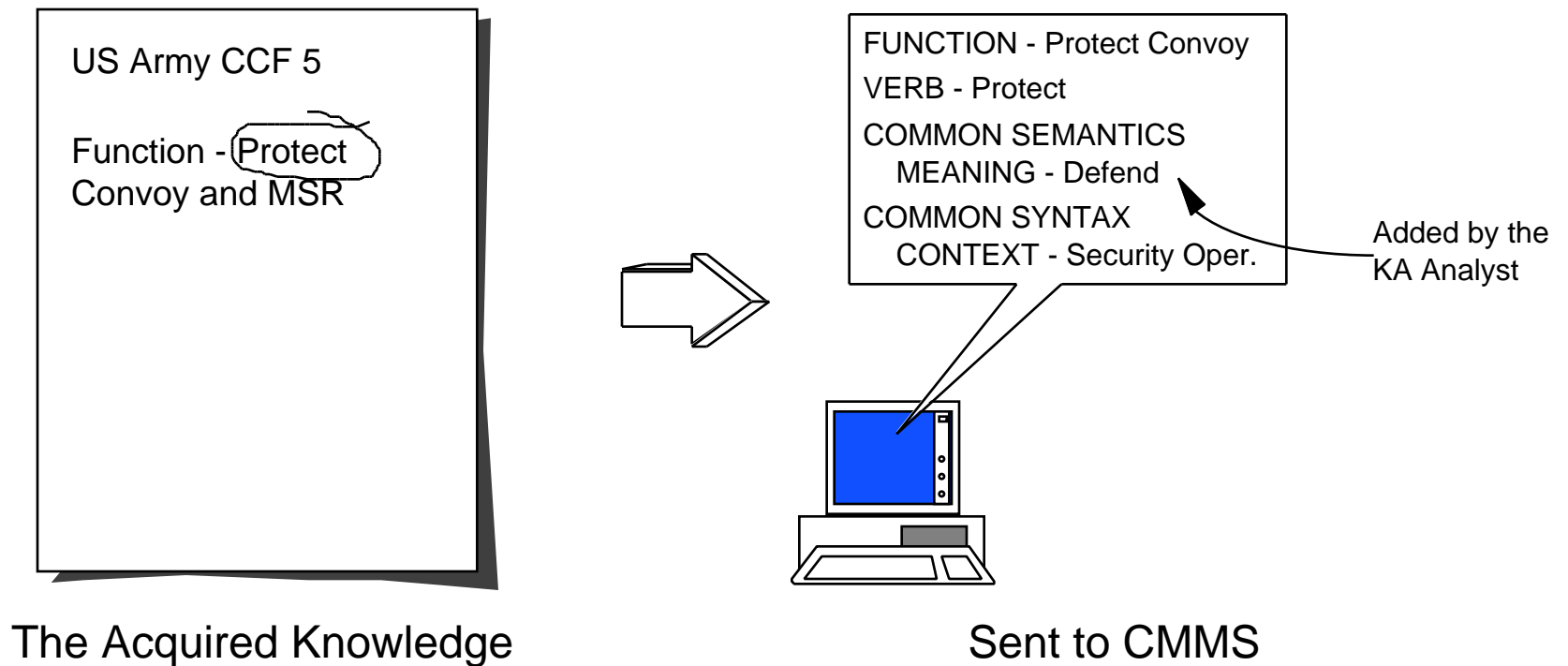
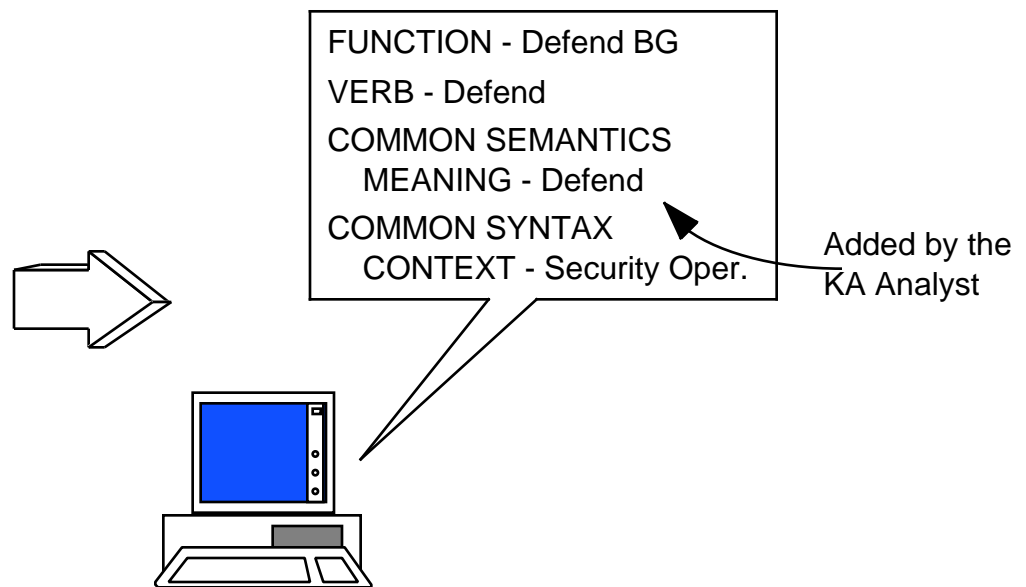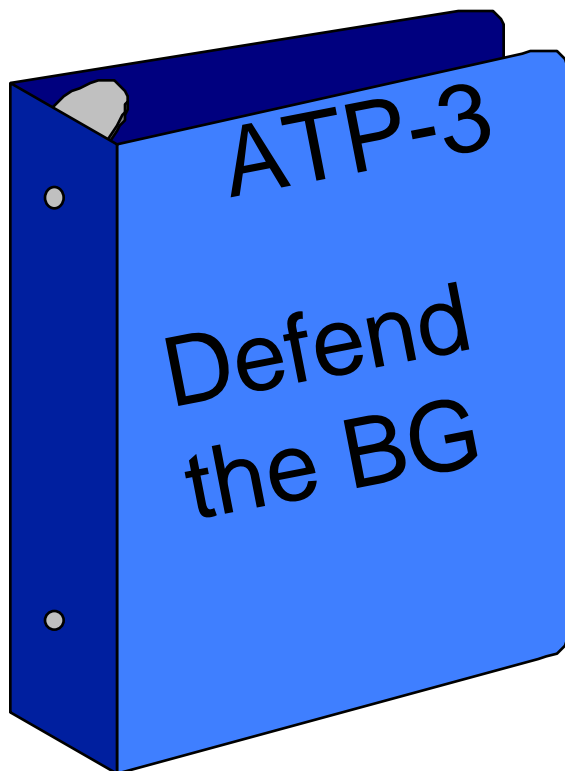| C2	CONDUCT OPERATIONS
O T H E R	SECURITY OPS BG (Defend) Defended BG

Warfighter Function - Defend BG
Warfighting Context - Security Operations
Common Semantic Reference - *Defend*

- **To be meaningful, common semantics must be allowed to differ in different contexts**

- **We need to establish the context for this sense of "Defend"**
  - **Establish a generic syntax or structure of contexts**
  - **The common semantic term is valid within one of these contexts**
  - **Narrows the field enough to find similarities**
  - **Call it "Common Syntax" (where the word may be used)**

Why is This Not a Threat to Army Doctrine/KA
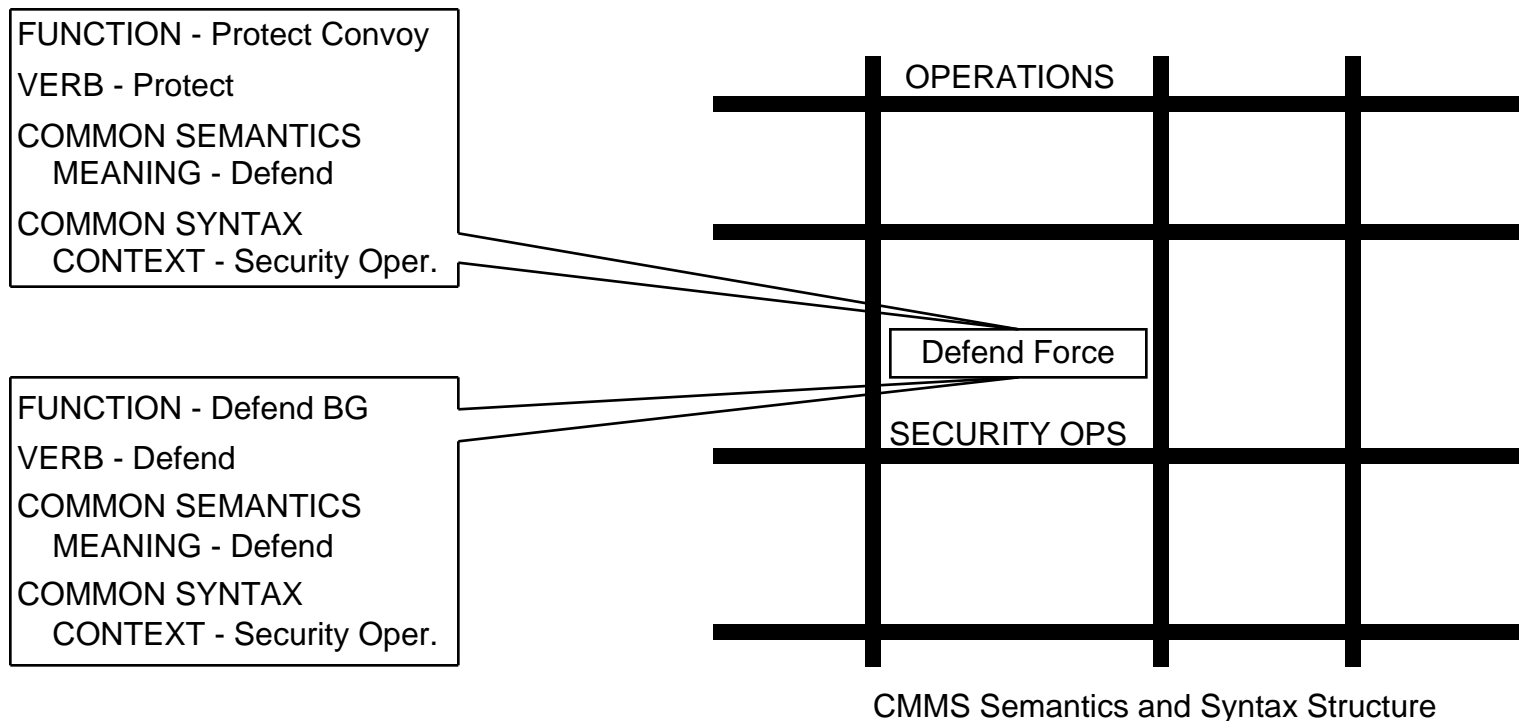
US Army CCF 5

Function - Protect
Convoy and MSR

FUNCTION - Protect Convoy

VERB - Protect

COMMON SEMANTICS
    MEANING - Defend

COMMON SYNTAX
    CONTEXT - Security Oper.

Added by the
KA Analyst

The Acquired Knowledge

Sent to CMMS

Why Is This Not a Threat to Navy KA

ATP-3

Defend
the BG

FUNCTION - Defend BG

VERB - Defend

COMMON SEMANTICS
    MEANING - Defend

COMMON SYNTAX
    CONTEXT - Security Oper.

Added by the
KA Analyst

Sent to CMMS

Getting Similar Military Functions Together

FUNCTION - Protect Convoy

VERB - Protect

COMMON SEMANTICS
  MEANING - Defend

COMMON SYNTAX
  CONTEXT - Security Oper.

OPERATIONS

Defend Force

FUNCTION - Defend BG

VERB - Defend

COMMON SEMANTICS
  MEANING - Defend

COMMON SYNTAX
  CONTEXT - Security Oper.

SECURITY OPS
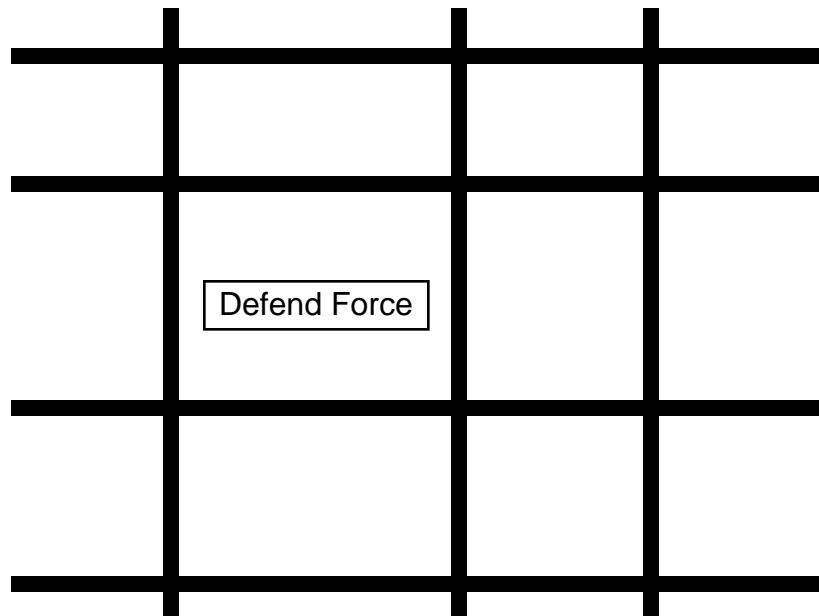
CMMS Semantics and Syntax Structure

- **Context, or syntax, gets processes in the same box**
- **Semantics syncs them up with each other**
- **Reuse and Integration are supported by the common "language"**
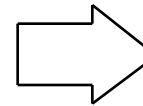
How is the Warfighter Information Retrieved?

US Army CCF 5

Function - Protect
Convoy and MSR

ARMY

Defend Force

NAVY

ATP-3

Defend
the BG

CMMS Semantic and Syntactic Structure
and Conceptual Models

Simulation Developer View
(Battlefield Familiarization)
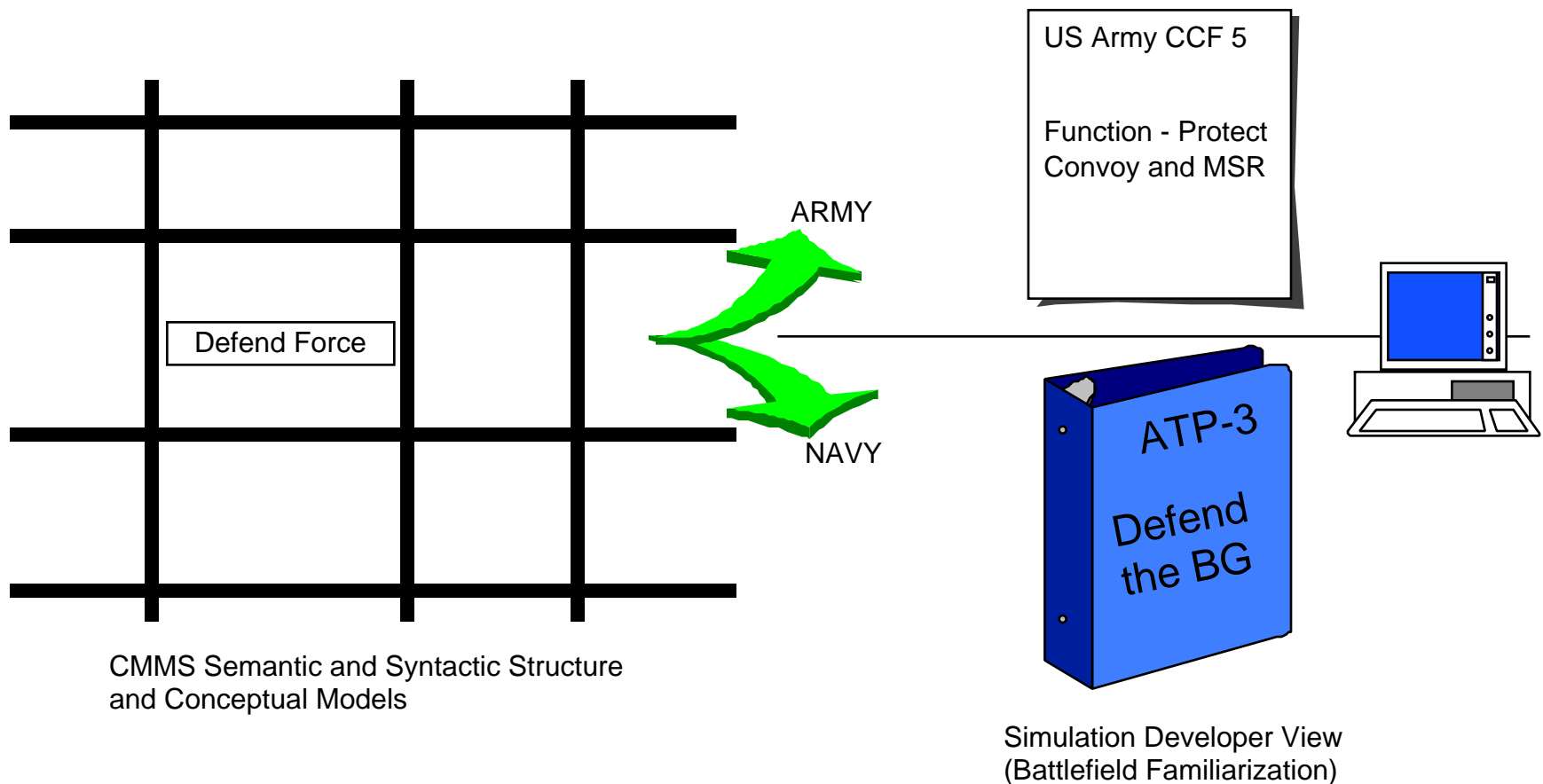
- **Look at the Problem Space the Way the Warfighter Does**

How is Reusability Information Retrieved?

Defend Force

VERB -   Defend
OBJECT -   Force
CONTEXT -   Engagement
SERVICES -   Army, Navy
INTERACTIONS - [too many]

CMMS Semantic and Syntactic Structure
and Conceptual Models

Simulation Developer View
(Architecture Reuse)

- **Look at the Problem Space with an Eye toward Reuse**